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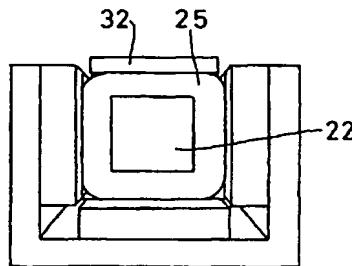
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02079461.6 25 October 2002 (25.10.2002) EP(71) Applicant (*for all designated States except US*): **KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).**

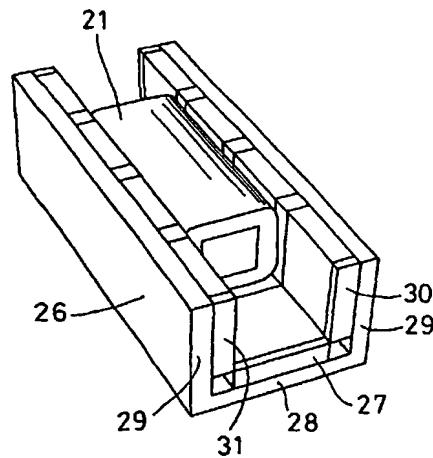
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(72) Inventor (*for US only*): **SAHIN NOMALER, Funda [TR/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).**(74) Agent: **BOS, Kornelis, S.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).**(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**Declaration under Rule 4.17:**

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[Continued on next page](54) Title: HIGH FORCE DENSITY LINEAR ELECTRIC MOTOR

2a



2b

(57) **Abstract:** Linear electric motor or actuator comprising a movable part (21) consisting of a soft-magnetic core (22) which supports a set of electrically conductive turns (25), which movable part is slidably supported by a rail (26) which is provided with at least one set of permanent magnets (27, 30, 31) extending in longitudinal direction along the core's periphery. The magnets (27, 30, 31) produce a magnetic field that cooperates with the set of turns (27, 30, 31) via an air-gap. The soft-magnetic core (22) of the movable part (21) is made of soft-magnetic composite material. The electrically conductive turns (25) are wound around the periphery of the core (21) substantially perpendicularly to the centerline thereof, and at least two sets of magnets (27, 30, 31) are arranged along its periphery such that the at least two sets of magnets (27, 30, 31) are arranged at different angles to the core (22).